

The opinion in support of the decision being entered
today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TIMOTHY T. ACHEE, JR. and CHRISTOPHER B. HINES

Appeal 2007-2037
Application 10/709,755
Technology Center 3600

Decided: November 14, 2007

Before WILLIAM F. PATE III, TERRY J. OWENS, and
LINDA E. HORNER, *Administrative Patent Judges*.

WILLIAM F. PATE III, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

1 This is an appeal from the final rejection of claims 1-23. These are
the only claims in the application.

We have jurisdiction over the appeal pursuant to 35 U.S.C. §§ 134 and 6.

The claimed invention is directed to a multi-zone completion for an oil well. At least three zones are completed. The completions are characterized by at least three sand control assemblies, three independent flow conduits, and three flow control devices to control the three conduits. At least two of the conduits include an annular pathway.

Claim 1 reproduced below, is further illustrative of the claimed subject matter.

1. An apparatus for use in a well having at least three zones, comprising:

at least three sand control assemblies for positioning proximal respective zones;

a flow assembly defining at least three flow conduits to respectively communicate with the at least three zones,

wherein each of at least two of the flow conduits includes an annular path; and

at least three flow control devices to respectively control flow of the at least three flow conduits.

The references of record relied upon by the examiner as evidence of obviousness are:

Patel (Patel '298) US 6,227,298 B1 May 08, 2001

Patel (Patel '216) US 6,302,216 B1 Oct. 16, 2001

Claims 1-18, 20 and 21 stand rejected under 35 U.S.C. § 103 as unpatentable over Patel '298.

Claims 19, 22 and 23 stand rejected under 35 U.S.C. § 103 as unpatentable over Patel '298 in view of Patel '216.

In the Brief, Appellants argue claims 1-18, 20 and 21 as one group and claims 19, 22 and 23 as a second group. However, in the argument on page 7, the patentability of claims 19, 22 and 23 is found to be solely based on their respective base claims. Accordingly, we have chosen claim 1 as a representative claim, and all of the claims on appeal will stand or fall with claim 1. *See* 37 C.F.R. § 41.37 (c)(1)(vii) (2007).

ISSUE

As outlined above, all of the claims stand or fall with claim 1. Accordingly, the sole issue presented is whether the Appellants have established that the Examiner has erred in rejecting claim 1 on the ground of obviousness.

FINDINGS OF FACT

Patel '298 discloses a well completion system. The Figures in the patent illustrate isolated completions from two zones 20 and 22. The two zones have been perforated at 150 and 152. The zones have been isolated by packers 166, 168 and 170. The zones are produced through screens 154 and 156. See, generally, col. 2, l. 56 through col. 3, l. 25. Two isolated flow conduits are provided to the surface. The first conduit, a central conduit flows through the bottom valve section 104 into ports 108. Col. 3, ll. 15-24. The second flow conduit is an annular conduit in second valve section 102 including ports 106 and allows flow from the second wellbore section 112 that is in communication with the second zone 22. *Id.* The valve sections 104, 102 are flow control devices. Thus, Patel '298 is a recognition in the art that multiple flow paths are known, and that a flow path can take the form of a central flow path or an annular flow path.

Patel '298 also contemplates multiple completions with more than two zones. For example, in column 2, Patel states "the formation isolation system according to further embodiments may include multiple valves for use with more than two zones." Patel '298, col. 2, ll. 25-26. Additionally, Patel '298 states that "[a]lthough the illustrated embodiments refer to two zones and two valves in the multivalve assembly 190, other embodiments may include a greater number of valves for use with a corresponding number of zones." See col. 4, ll. 13-15. Thus, not only does Patel '298 recognize multiple fluid conduits, either annular or central, Patel '298 recognizes individual and independent conduits which may include a valve or flow control device for each conduit and each producing zone.

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 18, 148 USPQ at 467.

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious.

In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham*, 383 U.S. at 12, 148 USPQ at 464, and reaffirmed principles based on its

precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

ANALYSIS

We will sustain the rejection of claim 1 as unpatentable over Patel ‘298. We agree with the examiner that the use of an additional annular flow path or conduit in Patel ‘298 is merely applying a known technique to a known device which readily yields predictable results and therefore is likely to have been obvious. *See KSR* at 1742, 82 USPQ2d at 1397. This is particularly so in view of the fact that Patel ‘298 clearly contemplates producing from more than two zones using an independent well isolation system with each isolated zone having its own flow control valve. Moreover, it is our view that whether the additional flow conduit is annular

or the additional flow conduit is an additional tubing installed centrally in the well completion is merely a choice from a finite number of identified predictable solutions. Since Patel '298 teaches the viability of either of these solutions, one of ordinary skill would have recognized that either yields a reasonable expectation of success. Therefore, one of ordinary skill would have found it obvious to try additional annular flow conduits over the single annular flow conduit disclosed in Patel '298. *See KSR*, 127 S. Ct. 1742, 82 USPQ2d at 1397.

We have carefully considered Appellants' arguments but as noted above, we do not agree that the Examiner has not made out a prima facie case of obviousness. We further note the argument that Patel '298 does not disclose or suggest an additional flow conduit that would be an annular path. While this is true, it would seem to run to a rejection under § 102 and is irrelevant under § 103.

Appellants further argue that there is no objective evidence that would have suggested a modification of Patel '298 to provide a second annular path. However, as the Supreme Court has stated in *KSR*, the obviousness analysis need not seek out precise teachings directed to the specific subject matter of a challenged claim, for a court can take into account the inferences and creative steps that a person of ordinary skill in the art would employ. *See KSR* at 1741, 82 USPQ2d at 1396.

CONCLUSION AND ORDER

The Appellants have failed to establish that the Examiner erred in rejecting claim 1 on the ground of obviousness. Therefore, the rejections of claims 1-23 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (1) (iv).

AFFIRMED

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